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congenital variation, and not the accidental scar, that the daughter had inherited.

#### AMATEUR PHOTOGRAPHY IN THE SUMMER OF 1889.

THOSE who ventured to take photographs with the dry plates of eight years ago thought the art a simple one, and well suited to the needs of every one who was willing to go to any trouble in securing photographic record of sights and scenes in which he might be interested.

A year ago the Kodak was brought on the market. In this camera, which is known to all, and whose products are so favorably received wherever shown, in place of the glass negative of the

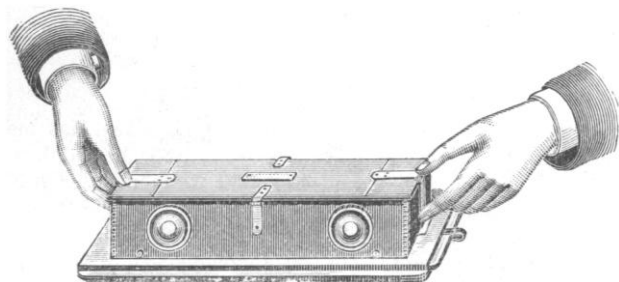


FIG. 1.

past was substituted a strip of sensitized paper stretched between two reels.

This was but a partial solution of the problem, for the paper is of necessity opaque, and to secure the best results it was necessary to strip the delicate film from the paper and attach it to glass or some other transparent support. This was a tedious process. A recent discovery and invention by Mr. George Eastman of the well-known firm in Rochester, obviate every difficulty. He has succeeded in producing a strong and perfectly transparent support, of great flexibility and extreme thinness, which can be wound upon rollers, to be exposed, developed, and printed like ordinary glass negatives. The transparent support is a modification of celluloid, specially prepared by a process invented by Mr. Eastman. The celluloid product is but four one-thousandths of an inch in thickness, and the gelatine film upon it is one two-thousandth of an inch

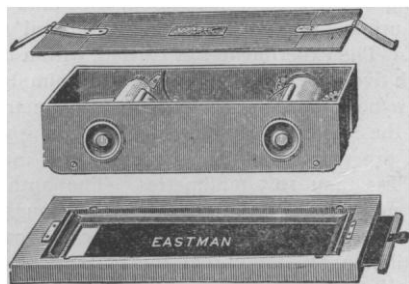


FIG. 2.

in thickness. It will thus be seen that a great magazine of photographic material can be carried in a very small space, and with no inconvenience on account of weight. Every operator can develop and print his own negatives and refill his magazine, with the exercise of only ordinary skill.

Mr. Eastman has removed the greatest difficulty in the way of rapid and satisfactory outdoor work, while adding facility in indoor photography, especially on large work. The handling of large plates is always difficult, and attended with serious risks. The flexible, transparent support makes the handling easy, and the results secure. The new support has been thoroughly tested. It withstands sun-heat necessary in printing, and is unaffected by the chemicals employed in development and other photographic processes.

The accompanying illustrations show the film-holder for the Kodak camera. Fig. 1 shows the holder closed; and Fig. 2, the same open, with a view of the two reels.

#### HEALTH MATTERS.

##### The Alleged Spontaneous Combustion of the Human Body.

WHEN "Bleak House" appeared, in 1853, novel-readers were treated to a new sensation in the way of a death-scene, when Krook was taken off the stage by spontaneous combustion, "of all the deaths that can be died." The public shuddered, and medical readers smiled. The subject was then to most physicians, as it is now, well inside the border of medical mythology.

Within the past year or two, several cases have been put on record, which, with the list previously accumulated, serve to establish pretty clearly, in the opinion of *The Boston Medical and Surgical Journal*, "the fact of an occasional abnormally increased combustibility of the human body, which, it should be observed, does not necessarily imply ignitability, or true spontaneous combustion."

For instance: Dr. Booth's case, which is reported, with a photograph of the nearly consumed remains, in the *British Medical Journal* (vol. i. 1888, p. 841), is of a pensioner, aged sixty-five, of very intemperate habits, who climbed into a hay-loft while drunk, at nine P.M. Neighbors saw by a skylight a light struck, which after a while was put out. At eight the next morning, the body, with all its soft parts consumed, was seen lying over a hole in the floor which had nearly burned through, but had one or two joists that kept the body from falling through. The chance of the application of fire to the man's clothes is here distinctly stated; and the combustion, remarkable as it was, is not shown to have been spontaneous.

Again, Middlekamp, in the *St. Louis Medical and Surgical Journal*, October, 1885, reported a similar case of nearly complete combustion, where the victim, a man of sixty-six and a drunkard of twenty years' standing, fired a gun at his own breast with a ramrod. Here the heat was so intense as to melt the ramrod and a metal buckle. The body was consumed entirely, except the lower part of the legs, the head, and the arms.

In the *Therapeutic Gazette* of the current year, two more such instances are reported. One of these, Dr. Clendenin's case, was an old Irish woman, addicted to the excessive use of whiskey, of which she had drunk a quart the day she died. She had always been the last of the household to go to bed, and so always extinguished the tallow candle (their sole means of illumination). There was also a fire in the kitchen stove. The inner walls of the house were covered with greasy soot, and the two old men who were the only other occupants were both asphyxiated. A hole was found burned through the kitchen floor about two and one-half by three feet square. Upon examining the opening in the floor, a mass of cinders was discovered on the ground beneath. Upon removing them, the skull, the cervical, and half the dorsal vertebrae were found reduced very nearly to a cinder, also about six inches of the right femur, together with part of the ilium in about the same state as the vertebrae. The feet were found in the shoes: the left foot was reduced to a cinder, the shoe being partially calcined; the other foot and shoe were reduced to a complete cinder. On removing, the entire remains of a woman, who a few hours previous had weighed one hundred and sixty pounds, were placed in a box that would hold less than one bushel. The entire remains weighed twelve pounds. The pine joint against which the remaining cinders lay were slightly charred, but not burning when found.

To burn the human body, under ordinary circumstances, as the editor of the journal states, is not an easy thing. The great heat secured in crematories, and the length of time even then requisite to incinerate the body, illustrate this fact. It has been shown that the body is three-quarters water, and a great deal of combustible material is a necessary adjunct to the successful reduction of so non-inflammable a substance. What, then, is it that occasionally imparts to it so abnormal a susceptibility to flame? Here theories are at fault. We may safely say that it is not, as has been claimed by some, alcohol deposited in the tissues: for Liebig found that flesh saturated in that liquid would burn only until the alcohol was consumed. The hydrogen theory is also fanciful; and the best explanation, namely, an abundant deposit of fat in the cells of the body in such cases, fails to account for the fact that not

all fat people are subject to this fate, but that it is only the fat, elderly alcoholic subjects that have been shown to manifest abnormal combustibility. Possibly the alcohol in such cases has the double effect of laying up fat and stupefying the subject, so that he is unable to save himself when he does take fire.

One of the best recent monographs on this subject is that of Dr. F. Ogsten (*British Foreign Medico-Chirurgical Review*, vol. xlv. p. 179), which details a case of his own, — again, be it observed, one where the spontaneous element was wanting, or was not proved. A woman, fat, intemperate, was in front of smouldering ashes in a grate, and was almost wholly consumed, with little burning of the surrounding objects, and with nothing specially inflammable about her. Ogsten seems to have had some doubt on this subject, seven years later, in referring to the same case (*Medical Times and Gazette*, vol. i. 1877, p. 27), when he says the question is still *sub judice*; but he admits that one cannot explain the facts in this case without assuming that the body was in a condition unusually favorable for and predisposed to the feeding at its own fire.

In the monograph referred to, Ogsten collected the opinions of thirty-five authors who treated of this subject, and he thus classified them: five were quite sceptical on the whole subject, three believed in increased combustibility only, and twenty-seven believed in spontaneous ignitability as well.

The opinion of the editor of the *Medical and Surgical Journal* is, therefore, that the necessarily isolated condition of all persons who perish in this way, and the commonness of fires and lights or of the means of producing them in all places, would make it extremely difficult to establish the fact of spontaneous ignitability, even did it exist. Certainly such proof has not yet been given us. The other point, that of increased combustibility, seems to have received considerable confirmation.

#### Elimination of Poisons.

In an exceedingly interesting and valuable Croonian lecture on chemical structure and physiological action, recently delivered before the Royal College of Physicians of London by Dr. T. Lauder Brunton, there is a passage in which he discusses the treatment of diseases depending upon infection of the blood or tissues by microbes. In this he calls attention to the difficulty of destroying or weakening microbes, once fairly occupying the animal economy, and the greater probability of success by promoting rapid elimination of the poisonous products of micro-organisms, as well as of the micro-organisms themselves.

One of the most important methods of such elimination is free purgation; another is active diuresis; and a third, not alluded to here by Dr. Brunton, is free sweating.

One of the best diuretics, Dr. Brunton says, is a free supply of water; and Ringer has pointed out the possibility of lessening the effect of poisons by washing them, as it were, rapidly out of the system. This plan has recently been followed by Sanquirico with very striking results. In his experiments he injected quantities of a weak saline solution directly into the veins immediately after the poison had been administered, or just when the symptoms of poisoning began to appear. By treatment in this way he found that three times the ordinary lethal dose of strychnine had to be administered before death occurred. The poisonous action of chloral, alcohol, urethan, paretdehyde, caffeine, and aconitine was also diminished, but not very much; while that of morphine and nicotine was unaffected. In all cases the beneficial effect of the treatment was most marked when the diuresis was greatest. No doubt, the effect of fluids is likely to be greater when they are introduced directly into the veins than when they are introduced indirectly through the alimentary canal; but the effect in both cases will be the same in kind, though different in degree.

The principles laid down in these statements, *The Medical and Surgical Reporter* remarks, are probably those which lie at the base of the empirical practice of hundreds and even thousands of years; and they furnish an interesting demonstration of the way in which reason often, by slow steps, demonstrates the wisdom of practices long since adopted under the spur of instinct or in imitation of nature.

HYGIENIC POLICE REGULATIONS IN BERLIN. — The Berlin correspondent of the *Medical Age* (June 10, 1889) says that the

city of Berlin in many respects is exemplary in its hygienic care and dispositions, especially in its regulations concerning buildings, streets, victuals, and, last but not least, the patent-medicine man. No house is allowed to be built until its plans have passed not only ordinary police inspection, but also a special "hygienic committee," which rejects, of course, every thing which is not in accordance with the principles of hygiene. The streets of Berlin are the objects of admiration of all foreigners, who speedily are awakened to the shameful and outrageous treatment to which they have been subjected for years. Berlin is paved almost exclusively with asphaltum and Belgian blocks, and the streets are always bright and clean-looking, regardless of weather. The inspection of victuals is so rigorous that poisoning from trichinæ, or from decomposed meat, fish, or other eatables, is an exceedingly rare occurrence. Quite recently, 24,000 pounds of fish, just from Denmark, were confiscated and destroyed. No milk-wagon is allowed to enter the city until the specific gravity of the milk has been ascertained. Regarding patent medicines, the Berlin police have resorted to very simple means to protect the public; viz., by the absolute interdiction of patent-medicine advertisements in newspapers and other public prints. It will be seen by the foregoing that citizens of Berlin are not permitted to care for themselves, as is the hazardous privilege of Americans, but the government assumes the responsibility of all hygienic and sanitary precautions.

SIR SPENCER WELLS ON CREMATION. — The London *Lancet* (June 8, 1889) says that Sir Spencer Wells deserves credit for the pains he takes to disseminate a knowledge of the arguments for cremation in Great Britain, and of the success which this method of disposing of the dead meets with. It is impossible to deny the strength of the arguments in favor of cremation as a most effective and prompt way of reducing the body to its mineral elements, which process, the *Lancet* says, can be carried out now at Woking at the small cost of ten shillings per body. Sir Spencer Wells argues, that, however light the covering of the dead body, its burial in earth is objectionable, for the reason that infective germs are in this way preserved and carried about by water or air, to operate injuriously when favorable meteorological or social states occur. The rapid growth of population, and especially of urban populations, due to a greater prevalence of peace and a more satisfactory sanitary system, invests this question with ever-increasing importance. The religious objections have been completely answered by men like Lord Shaftesbury and Bishop Fraser. There is evidence that the number of cremations is increasing in Italy and England, as in the week preceding Sir Spencer Wells's speech there had been three cremations at Woking; while in Italy, in the three years 1886, 1887, and 1888, there were 119, 155, and 202.

#### NOTES AND NEWS.

THE opening season of the tenth annual convention of the National Photographers' Association was held at the Mechanics Building, Boston, on Aug. 6. Mr. J. F. Ryder of Cleveland gave an address of welcome. The next meeting will be held at Detroit. The exhibition of apparatus and pictures was open till to-day. The Eastman Dry Plate and Film Co. of Rochester showed a notable collection of large pictures. Cramer of St. Louis displayed some of the results from his orthochromatic dry plates, which give the true value of the colors in originals.

— London *Industries* reports that C. A. Paillard has recently drawn attention to the valuable properties of some of the alloys of palladium, and advocates their use in the manufacture of non-magnetizable watches. The composition of four alloys has been ascertained, and the author has examined their respective properties. An alloy consisting of palladium 60.75, copper 15.25, and iron 1.5 per cent, is readily formed by mixing half the palladium with the copper and iron, and fusing the mixture with borax and powdered charcoal. The remaining palladium is then added, and the alloy fused and poured into moulds.

— A sister of the late Maria Mitchell will prepare for the press the "Life and Letters" of the distinguished teacher. Her correspondence is said to be very rich in letters from Herschel, Humboldt, and others.